

In the Claims:

Please cancel claims 1- 14 and add new claims 15 - 18 as follows:

1 - 14. (Canceled).

15. (New) An electrodeless lamp for producing at least one of uv and visible light, comprising:

a lamp bulb envelope of single crystal sapphire tubing, the lamp bulb envelope having a substantially cylindrical shape and having an inner diameter of between 1 mm and 25 mm and an outer diameter of at least 2 mm, an inside surface of the lamp bulb envelope being capable of withstanding 1,400⁰ C with a power density greater than 50 watts/cm³ without a rotation; and

a plasma having a temperature of at least 1,000⁰ C, is generated within the lamp bulb envelope by application of microwaves or RF electric fields.

16. (New) The lamp according to claim 15, further comprising:

two end plates composed of one of tantalum and niobium, each of the end plates being fitted into a corresponding groove on an inside wall of the lamp bulb envelope.

17. (New) The lamp according to claim 16, wherein each of the end plates is located near a respective end of an energy cavity, and wherein at least one of microwave and RF energy is guided into the lamp by the two end plates.

18. (New) The lamp according to claim 15, wherein the lamp has a pressure of greater than 20 atmospheres.